

Claims 1-5 have been rejected under 35 U.S.C. § 112, first paragraph as claiming subject matter not enabled within the specification. The Examiner contends the specification does not provide enabling disclosure for structural or functional characteristics of fragments comprising amino acids 26-48, 26-49, 26-50, 26-110, 26-114, and 115-139. The Examiner's view is that the sequence for each of the entire polypeptide bands is not named, and therefore, because protein structure prediction is an unpredictable art, it would require undue experimentation to determine the amino acid sequences.

Applicants have canceled claims 4 and 5 which are directed to fragments of zins1 polypeptide and polynucleotides encoding said polypeptides. With regard to claims 1-3, the molecules that are claimed recite a sequence of nucleotides that encode for the mature polypeptide and protein. The specification clearly enables these molecules. As the Examiner points out in the instant Office Action at page 5, sequencing of the isolated polypeptides have amino acid residue 26 at the N-terminus, and the entire sequence is presented in SEQ ID NOS: 1 and 2. Claims 1-3 are product-by-process claims and comprise the expressing a molecule comprising a nucleotide sequence that encodes for the mature polypeptide. The examples in the specification provide the requisite enablement. For example, in addition to providing the sequences, Example 1 discloses that by transfecting a host cell with the polynucleotide molecule of claim 1, a protein was expressed. Example 2 illustrates that the claimed molecule was active. Therefore, Applicants traverse the rejection of claims 1-3, because the claims are fully enabled both within the specification by description and illustration by way of example.

Claims 4 and 5 have been rejected under 35 U.S.C. § 112, second paragraph as being indefinite. It is the contention of the Examiner that the claim language "first polypeptide" and "second polypeptide" are not clear in the context of being an isolated protein. Applicants have canceled claims 4 and 5, thereby obviating the rejection.

Claims 1-5 have been rejected under 35 U.S.C. § 102(b) as being anticipated by Chassin et al., (Genomics, 29:464-470, 1995). The Examiner contends that Chassin teaches an isolated protein that comprises amino acids 26-48, 26-49, 26-50, 26-110, 26-114, and 115-139. Applicants traverse this rejection in part because claims 1-3 do not recite these fragments, but are directed to a protein that has been produced by expressing a DNA segment comprising a nucleotide sequence as shown in SEQ ID NO: 1 from nucleotide 76 to nucleotide 417. Applicants are uncertain how the Examiner has determined that the cited reference anticipates this molecule. Chassin describes a sequence of nucleotides and amino acids encoded therefrom that include a signal peptide (numbers -1 to -17), and an intron/exon structure which constitutes the human INSL4 gene. While there is similarity in the overall sequences, the structure of the protein is very different and does not anticipate the present invention. The present invention claims a protein shorter by eight amino acid residues at the N-terminus than the Chassin polypeptide because the secretory signal sequence

in the instant application is predicted to be longer ending at residue 25 (Ala), rather than residue 17 (Ser) as predicted by Chassin. No where in either the cited Chassin reference or Appendix A is a mature protein of 114 amino acid residues taught. In fact, Figure 2 of Chassin et al., teaches that based on the authors' structural analysis, the mature polypeptide N-terminus is at residue 18, and while the present inventors expressed, sequenced and identified certain activities associated with claimed protein, the references do not suggest that EPIL was ever even expressed to verify their predictions. Therefore, Applicants respectfully submit that neither the sequence nor reference cited by the Examiner teach a protein that anticipates the claimed invention, and request the rejection be withdrawn and the claims allowed.

If for any reason the Examiner believes that a telephone conference would expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (206) 442-6672.

Respectfully Submitted,



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Enclosures:

- Amendment Fee Transmittal (in duplicate)
- Petition for Extension of Time (in duplicate)
- Return Postcard